

## PATENT ABSTRACTS OF JAPAN

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(21)Application number : 10-185704

(71)Applicant : NIIMI:KK

BARUDAN CO LTD

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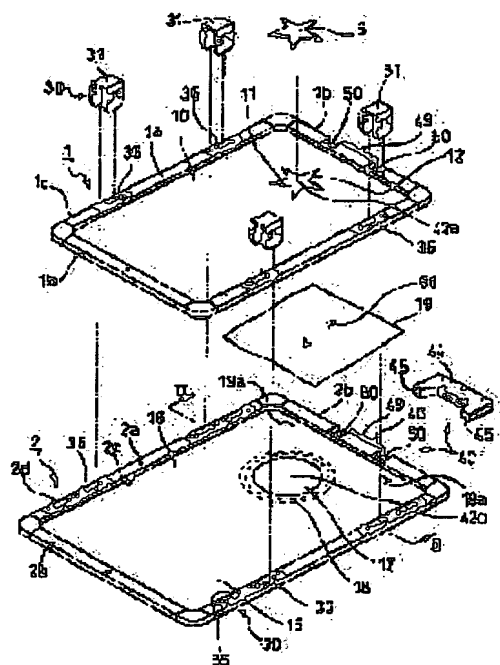
(72)Inventor : NIIMI KUNIIHIKO

## (54) EMBROIDERY FRAME

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide an embroidery frame so designed that an applique is provided with any embroidery pattern using one frame, and a specified position of a cloth 5 is superposed with the applique thus patterned using the above frame and another frame to sew the applique on the cloth so as to ensure the backside threads of the embroidery pattern not to come out on the reverse face of the cloth.

**SOLUTION:** This embroidery frame has, inside the frame member, a medium frame 2 equipped with a cloth-holding means provided with a needle-threading hole 17 and a large frame similarly equipped with a cloth-holding means provided with a needle-threading hole 17 and having a defined inner dimension so as to detachably situate the medium frame 2 inside; wherein there are reference positions 42a which coincide with the needle location of an embroidery sewing machine at both the needle-threading holes, a coordinating means 30 is equipped between the medium frame 2 and the large frame so as to make both the reference positions 42a coincide with each other, and there is also equipped with a coupling means for the driving frame in the embroidery sewing machine so as to drive both the medium and large frames together by the aid of the driving frame.



## LEGAL STATUS

[Date of request for examination]

21.02.2005

**\* NOTICES \***

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**CLAIMS**

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**[Claim(s)]**

**[Claim 1]** They are a cheek middle flask equipped with a cloth maintenance means by which the needle through hole is prepared inside frame part material, and the rereeling reel which has determined that a cheek middle flask can be located inside by the inside form dimension free [ attachment and detachment ]. Inside frame part material It has the rereeling reel made to be equipped with a base fabric maintenance means by which the needle through bore is prepared. The above-mentioned needle through hole, Inside [ each ] the needle through bore, it has the criteria location which can be made in agreement with the needle location in an embroidery sewing machine. Between a cheek middle flask and a rereeling reel While making a coordinated means provide among both in the condition of having located the cheek middle flask inside the above-mentioned rereeling reel so that the above-mentioned criteria location of the above-mentioned needle through hole and a needle through bore may be made in agreement The embroidery frame characterized by the coupling means for a drive frame making it prepare for at least one of frames of these so that a rereeling reel and a cheek middle flask can be driven together with the drive frame in an embroidery sewing machine.

**[Claim 2]** They are a cheek middle flask equipped with a cloth maintenance means by which the needle through hole is prepared inside frame part material, and the reel which has determined that it can be located by the dimension free [ attachment and detachment ] inside a cheek middle flask. Inside frame part material The reel made to be equipped with the positioning member in which tooling holes are prepared, It is the rereeling reel which has determined that a cheek middle flask can be located inside by the inside form dimension free [ attachment and detachment ], and has the rereeling reel made to be equipped with a base fabric maintenance means by which the needle through bore is prepared inside frame part material. The above-mentioned tooling holes, Inside [ each ] the needle through hole and the needle through bore, it has the criteria location which can be made in agreement with the needle location in an embroidery sewing machine. Between a cheek middle flask and a reel While making a coordinated means provide among both in the condition of having located the reel inside the above-mentioned cheek middle flask so that the above-mentioned criteria location of the above-mentioned tooling holes and a needle through hole may be made in agreement The coupling means for a drive frame makes it prepare for at least one of frames of these so that a cheek middle flask and a reel can be driven together with the drive frame in an embroidery sewing machine. While making a coordinated means provide among both in the condition of furthermore having located the cheek middle flask inside the above-mentioned rereeling reel between the cheek middle flask and the rereeling reel so that the above-mentioned criteria location of the above-mentioned needle through hole and a needle through bore may be made in agreement The embroidery frame characterized by the coupling means for a drive frame making it prepare for at least one of frames of these so that a rereeling reel and a cheek middle flask can be driven together with the drive frame in an embroidery sewing machine.

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the embroidery frame which can use decorations, such as applique, for a \*\* attachment \*\* sake to the ground in detail about \*\*\*\*\* used for an embroidery sewing machine.

[0002]

[Description of the Prior Art] As opposed to the needle through bore 23 in the transparence plate as a base fabric maintenance means 22 of one \*\*\*\* 3 which changes applique only from the periphery frame of drawing 2 to the ground of arbitration, for example, the front thorax of a shirt, a \*\* attachment \*\* case conventionally It is performing attaching firmly a part of ground 5 of the above-mentioned shirt, where the \*\* attachment predetermined position of applique 6 is doubled, carrying out the polymerization of the applique 6 there, and sewing on using an embroidery sewing machine. Moreover, although a means to combine above-mentioned \*\*\*\* 3 with the \*\*\*\* driving member 41 which moves to right and left approximately in an embroidery sewing machine etc. is combined free [ attachment and detachment ] using the magnet force, the technique of this point is widely known for JP,57-167443,A etc.

[0003] Moreover, \*\*\*\* 3 which has stretched the above-mentioned ground 5, for example in the predetermined location of a fixed base frame as a technique to which applique 6 is fixed to the predetermined location in the ground 5 of \*\*\*\* 3 is fixed, the ruler frame with which a base frame is made to be equipped is dropped on \*\*\*\* 3, and if applique 6 is put on the location specified by the ruler frame, positioning of the applique 6 to the ground 5 can be performed. Next, two or more frames made such are set to a multi-head sewing machine, and giving the embroidery pattern 7 to each applique 6 is widely told by JP,55-9108,B.

[0004]

[Problem(s) to be Solved by the Invention] In this conventional embroidery frame, for example, put the ground 5 on the base fabric maintenance means 22 of drawing 2 , make needle through bore 23 location carry out the polymerization of the predetermined position 5with \*\* a of the applique 6 of that, and the polymerization of the applique 6 is made to carry out there, and suppose that the embroidery pattern 7 was given. There are few numbers of stitch of the embroidery pattern 7, and if it is a \*\* attachment \*\* grade about applique 6, a problem will not only be produced. However, if the embroidery pattern 7 is complicated and there are many numbers of stitch as shown in drawing 6 and drawing 7 C, the hard lump of embroidery thread will expose to the flesh side of the ground 5, and the trouble of bringing sense of incongruity to the skin will arise.

[0005] In order to solve this trouble, the applique 6 to which the embroidery pattern 7 is beforehand given with another means is manufactured, and a polymerization is carried out on the ground 5 and it is possible to carry out \*\* attachment. However, when the configuration in the applique 6 is a top-and-bottom symmetry configuration or is an analog, a worker makes a mistake in and equips with the sense, and there is risk of generating a defective.

[0006] Moreover, it becomes difficult for applique 6 to be fixed to the flesh side of applique 6 on the front face of the ground 5 as climax of embroidery thread is the large range, a part of applique 6 comes floating, applique 6 carries out a strike slip, or the trouble that a surrounding blind stitch carries out a strike slip, and makes defectives occur frequently arises.

[0007] The embroidery frame of this application is offered in order to solve the trouble of the above-mentioned conventional technique. The purpose of this application can give the embroidery pattern 7 of arbitration to applique 6 by one \*\*\*\* by using at least two \*\*\*\*. the applique 6 to which the embroidery pattern 7 of arbitration is given to the predetermined location [ in / that one above \*\*\*\* and at least other second \*\*\*\* are / the ground 5 ] -- a polymerization -- carrying out -- exact -- and the bobbin thread of the embroidery pattern 7 -- the ground -- it is going to offer the embroidery frame which could be made to carry out \*\* attachment so that it might not appear in a flesh side. Other purposes and advantages will become clear easily by explanation of the following in relation to a drawing and it.

[0008]

[Means for Solving the Problem] The cheek middle flask with which the embroidery frame in the invention in this application is equipped with a cloth maintenance means by which the needle through hole is prepared inside frame part material, It is the rereeling reel which has determined that a cheek middle flask can be located inside by the inside form dimension free [ attachment and detachment ]. Inside frame part material It has the rereeling reel made to be equipped with a base fabric maintenance means by which the needle through bore is prepared. The above-mentioned needle through hole, Inside [ each ] the needle through bore, it has the criteria location which can be made in agreement with the needle location in an embroidery sewing machine. Between a cheek middle flask and a rereeling reel While making a coordinated means provide among both in the condition of having located the cheek middle flask inside the above-mentioned rereeling reel so that the above-mentioned criteria location of the above-mentioned needle through hole and a needle through bore may be made in agreement At least one of frames of these was made to be equipped with the coupling means for a drive frame so that a rereeling reel and a cheek middle flask can be driven together with the drive frame in an embroidery sewing machine.

[0009]

[Embodiment of the Invention] The drawing in which the gestalt of operation of the invention in this application is shown below is explained. In drawing 1 thru/or drawing 12 , since the relevance with functions, such as a configuration which attached the sign used in explanation of the above-mentioned well-known technique and the same sign, and a member, a property, the description, and a well-known technique etc. can be understood to be the explanation and this purport which were mentioned above except for the new configuration of this application shown henceforth, the overlapping explanation is omitted. Next, in above-mentioned drawing 1 - 12 Fig., 1, 2, and 3 showed the reel as \*\*\*\* used when embroidering using an embroidery sewing machine, the cheek middle flask, and the rereeling reel, they formed them in the shape of a long square by longitudinal framings 1a, 2a, and 3a, and transverse-frame 1b, 2b and 3b, respectively, and have the space for embroidery inside, respectively. These three \*\*\*\* have carried out a correspondence setup of 3d of insides of a rereeling reel, the inside-and-outside sides 2c and 2d of a cheek middle flask, and the dimension of outside 1 of reel c mutually so that than drawing 8 and 9, and it can arrange in the same flat surface in an outer frame 3, a cheek middle flask 2, a seating rim 1, and Mie. 5 -- the part of the arbitration of the shirt as a base fabric -- the embroidery pattern 7 is given to the location which shows the ground, is the object cloth which gives the embroidery pattern 7, for example, is shown by 5a. 6 is the applique of the attachment object as a decoration pattern, for example, an arbitration configuration.

[0010] 10 is a transparence plate (for example, thin plastic sheet) as a positioning member stretched inside the reel 1, and in order to define the location of applique 6, the tooling holes 11 which carried out the form configuration while corresponding to the appearance configuration of applique 6 are formed. 16 is a transparence plate (for example, thin plastic sheet) as a cloth maintenance means stretched inside the cheek middle flask 2, the larger bore 17 for needle through than the appearance of applique 6 is formed, and the perimeter of a bore 17 is equipped with the cloth attaching part 18 for holding cloth 19. This cloth attaching part 18 applies and constitutes the adhesion material which iteration-pastes up cloth on the perimeter of a bore 17, deserts it, and can generally do use. 22 is a transparence plate (for example, thin plastic sheet) as a base fabric maintenance means stretched inside the rereeling reel 3, and is larger than the appearance of applique 6, the needle through hole 17 and the bore 23 for needle through of abbreviation Doshisha University are formed, and the

perimeter of a bore 23 is equipped with the base fabric attaching part 24 for holding a base fabric 5. This base fabric attaching part 24 applies and constitutes the adhesion material whose use iteration-pastes up cloth on the perimeter of a bore 23, deserts it, and is possible like [ in above-mentioned ]. [0011] The location of the above-mentioned tooling holes 11, the needle through hole 17, and the needle through bore 23 is defined centering on the needle location 42 of the table in an embroidery sewing machine. That is, when it is made to combine with the drive frame 41 and each \*\*\*\* is \*\*\*\*\* (ed), the abbreviation core of each above-mentioned hole is set to criteria location 42a, and it can be made to carry out to the perimeter sewing of the embroidery pattern 7.

[0012] If it is in the thing of the above-mentioned configuration, it dedicates, as a reel 1 is shown inside a cheek middle flask 2 at drawing 3, and the embroidery pattern 7 is given to applique 6. If in charge of this activity, the applique maintenance cloth 19 is beforehand stuck to the perimeter of the needle through hole 17 of a cheek middle flask 2. This applique maintenance cloth 19 is a thing for after \*\*\*\*\* to tear from the circumference of applique 6 on cloth 5, and for applique 6 remove it on it, and should just be a blanket-like thing (sheet) which is not torn away between the processes which, and are the cloth which dissolves with a drug solution, or result in drawing 7 in short as generally known. [ processes ] [ that it is film-like plastic sheeting ] Next, in the condition of drawing 3, the applique 6 of arbitration is inserted in in the tooling holes 11 in a reel 1. The strike slip of the applique 6 is not held and carried out by the hole edge 12. Next, a reel 1 and a cheek middle flask 2 are made to coordinate in one using the coordinated means 30, and it is made to combine with the drive frame 41 really possible [ traverse ] using a coupling means 40. In this condition, \*\*\*\* criteria location 42a of tooling holes 11 and the needle through hole 17 is in agreement. Thus, the picture shown in the embroidery pattern 7 of arbitration, for example, drawing 7, is embroidered after applique 6. After this process finishes, it goes into the process of drawing 2.

[0013] To the base fabric attaching part 24 which is in the perimeter of the needle through bore 23 of a rereeling reel 3 first, the ground 5 is stuck and is fixed. This fixing activity may make predetermined position 5 with applique 6 \*\* a in the ground 5 agree in the needle through bore 23 by carrying out correspondence coincidence of a part of ground to the base fabric positioning mark 25 beforehand attached to the base fabric maintenance means 22. Next, only the cheek middle flask 2 in the condition of having finished the activity of the preceding paragraph is dedicated to the \*\*\*\* condition shown in drawing 4 to the inside of a rereeling reel 3. In this condition, since both applique 6 and the embroidery pattern 7 given to applique 6 are located focusing on criteria location 42a of the needle through hole 17, it carries out polymerization coincidence of the criteria location 42a in the needle through bore 23 of a rereeling reel 3. Moreover, bobbin thread 7a of the embroidery pattern 7 is exposed to the flesh side of applique 6 to which the embroidery pattern 7 was given in large quantities, and although the degree of adhesion with the ground is bad, since applique 6 is lengthened and stretched with cloth 19 and is maintaining physical relationship with a cheek middle flask 2, if the physical relationship of a rereeling reel 3 and a cheek middle flask 2 becomes settled as planned, both vertical physical relationship will serve as as planned. Next, a rereeling reel 3 and a cheek middle flask 2 are made to coordinate with the coordinated means 30 like a last process, a rereeling reel 3 or a cheek middle flask 2 is combined using a coupling means 40 to the drive frame 41, applique \*\*\*\*\* 8 is used for the perimeter of applique 6, and it is \*\* attachment \*\* to the ground 5. If it does in this way, even if it is that of eclipse \*\*\*\*\* with \*\*, and it does not come floating to cloth 19 and bobbin thread 7a of the embroidery pattern 7 is rising on the reverse side of applique 6, it is inserted with the ground 5 and it hides, applique 6 is beautiful in appearance, and it will be finished finely, without coming out to the background of the ground 5. An activity will be completed, if the ground 5 is henceforth removed from a rereeling reel 3 and the exposed part of the applique maintenance cloth 19 is removed from the perimeter of applique 6.

[0014] The applique maintenance cloth 19 is received in applique 6 at the start location of a \*\* attachment \*\* sake, and a base fabric 5. The applique 6 with embroidery encaustic 7 next, about the start location of a \*\* attachment \*\* case Move the drive frame 41 by hand and a location is defined so that criteria location 42a in a cheek middle flask 2 or a rereeling reel 3 may be located in the needle location (lower part of a needle) in a table 43, as widely known by JP,6-93942,B. The memory in an automatic embroidery machine is made to memorize the start location, and it is made to embroider according to the program with which the automatic embroidery machine was made to

be equipped beforehand after that. In addition, what is necessary is just to lengthen the direction die length of criteria location 42a of the bond part material 44 shown in drawing 1 the width method strength of abbreviation transverse-frame 3b to the direction die length of criteria location 42a of the bond part material 44 shown in drawing 2 to fix the start location.

[0015] Next, when omitting a reel 1 in drawing 1, mark 19a which should fix the applique maintenance cloth 19 of a constant dimension is beforehand given to the cloth maintenance means 16 of a cheek middle flask 2, the applique maintenance cloth 19 is set there, and the applique maintenance cloth 19 is stuck on the cloth attaching part 18 in the condition. Moreover, to the applique maintenance cloth 19, draw 6d of marks, and a profile on the location in which applique 6 is located beforehand, and the fusion of the applique 6 is made to carry out there with a paste, and a cheek middle flask 2 is combined with the drive frame 41 by the coupling means 40, and it embroiders with the condition.

[0016] Next, two frames are held at fixed spacing and the coordinated means 30 for really carrying out horizontal migration consists of a connection member 31 formed in inverted-L-shaped, and a coordinated hole 35 formed as the front face of each frame (1, 2, 3) was shown in drawing 8. The connection member 31 consists of an inverted-L-shaped knob member 32 made from magnetic material, magnetic plates 33 and 33 connected with the lower limit of this free [ flexible accommodation in bis-32a ], and a ferrite magnet 34 currently pinched by the magnetic plate 33. The coordinated hole 35 consists of the griddle 37 for joining the tip of the magnetic plates 33 and 33 inserted free [ extraction and insertion ] to the inside of the nonmagnetic tubed holder 36 which shape[ of embedding ]-fixed to the hole made in the frame material made from aluminum (1a, 2a, 3a), and the tubed holder 36 free [ attachment and detachment ].

[0017] Next, as the above-mentioned coordinated means 30, gap 5G of cloth thickness are formed between [ three ] frames (1, 2, 3) like drawing 8 in consideration of the flash of the cloth from within the limit. Therefore, if the piece of a wedge of a correspondence dimension is shape[ of \*\*\*\* ]-inserted in these gap two or more parts, an internal and external frame will be unified, respectively.

[0018] Next, the coupling means 40 for enabling attachment and detachment of the drive frame 41 made from iron material and \*\*\*\* (1, 2, 3) consists of the bond part material 44 equipped with the convex joint pawl 45, the joint crevice 50 for carrying out fitting of the joint pawl 45, and the joint edge 48 equipped with the magnetic plate 49 of \*\*\*\* fixing. The bond part material 44 is a nonmagnetic product made from plastics, and has fixed in the drive frame 41 by setscrew 45a. Moreover, a ferrite magnet 46 and the magnetic plates 47 and 47 located in the both sides of that are attached, and this can be equipped with three \*\*\*\* free [ exchange ] to the drive frame 41 by the configuration which the drive frame 41 and each joint edge 48 in \*\*\*\* (1, 2, 3) can detach and attach with the above-mentioned joint pawl 45, the joint crevice 50 and a griddle 49, and a magnet 46.

[0019]

[Effect of the Invention] The invention in this application as mentioned above to a cheek middle flask 2 and a rereeling reel 3 Make the needle through hole 17 and the needle through bore 23 have, respectively, and criteria location 42a in each is followed as a guide. It enables it to have equipped the applique maintenance cloth 19 with the base fabric 5 in the rereeling reel 3 again in the cheek middle flask 2. And if the embroidery pattern 7 can be given to the applique 6 which is made to combine a cheek middle flask 2 with the drive frame 41, and is put on the above-mentioned applique maintenance cloth 19 and the cheek middle flask 2 is made to coordinate further that it is also with the coordinated means 30 to a rereeling reel 3 Since it is the configuration in which criteria location 42a of both the above-mentioned frames 2 and 3 carries out correspondence agreement, the effectiveness which can cover a lot of bobbin thread 7a which exposes to \*\* attachment \*\* and the flesh side of applique 6 the applique 6 to which the embroidery pattern 7 was given in the state of both cooperation at a base fabric 5 on the front face of a base fabric 5 arises. Moreover, the polymerization of the applique 6 to which the embroidery pattern 7 was given to the base fabric 5 is manually carried out like before, it can prevent beforehand making the sense of applique 6, and a location generate an error, and there is effectiveness of closing if in the predetermined position of a base fabric 5 in the \*\* attachment activity of a perimeter about applique 6 that there is no strike slip at the exact sense.

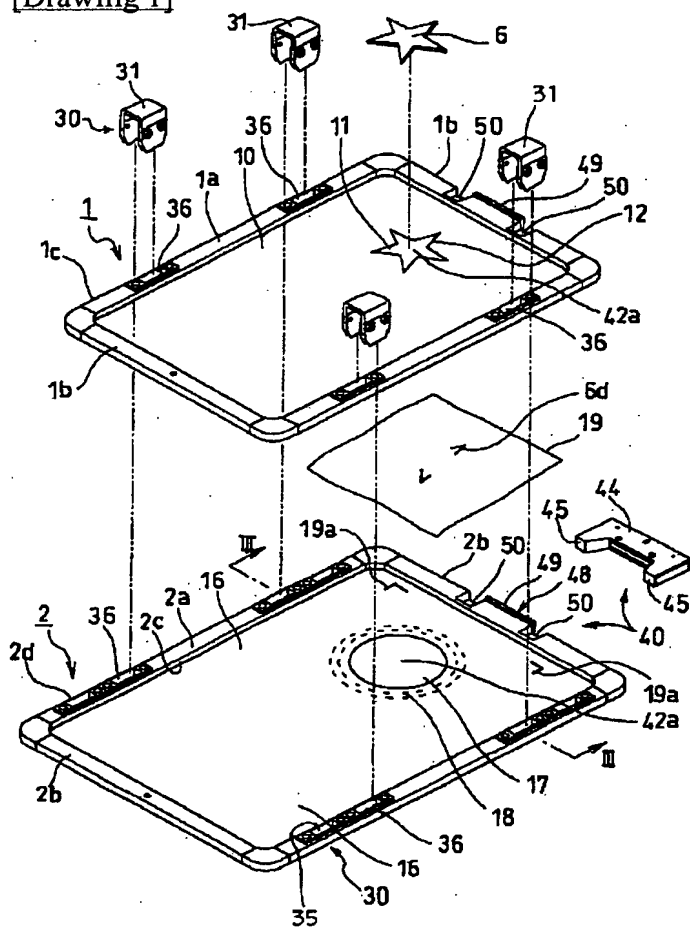
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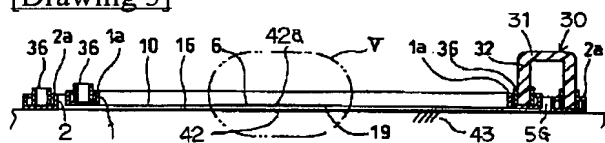
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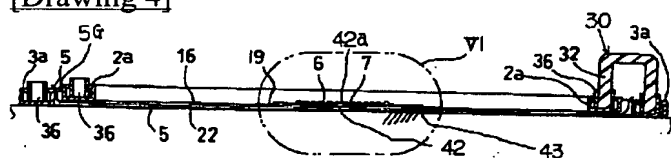
[Drawing 1]



[Drawing 3]



[Drawing 4]

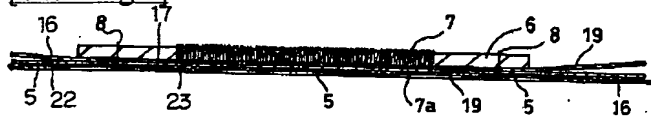




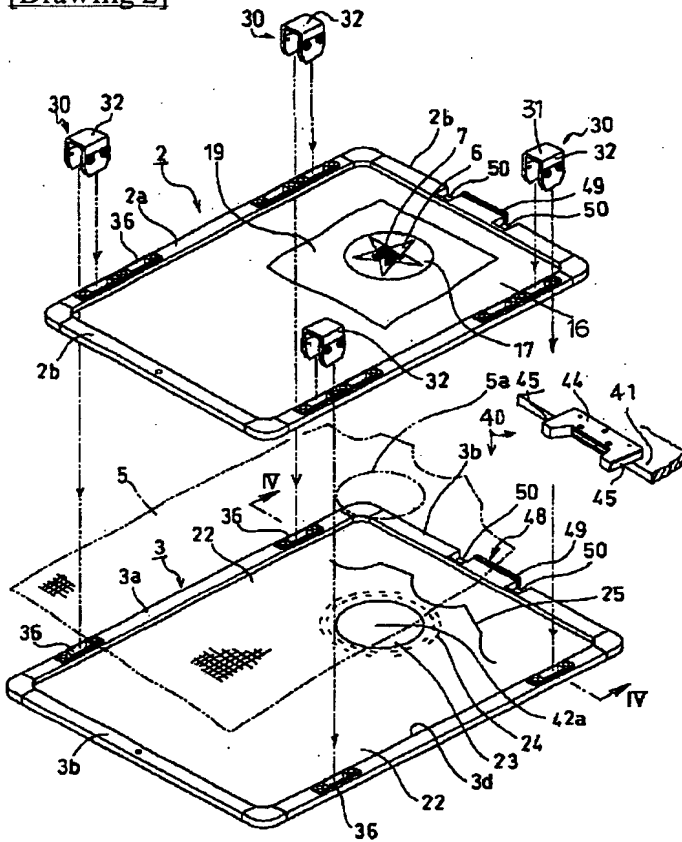
[Drawing 5]



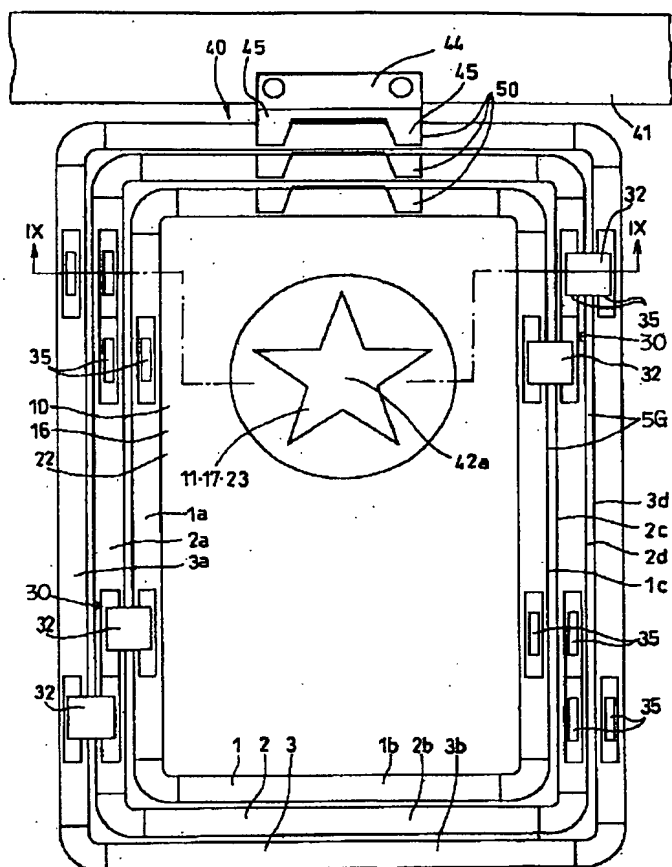
[Drawing 6]



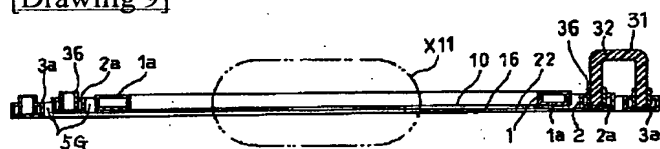
[Drawing 2]



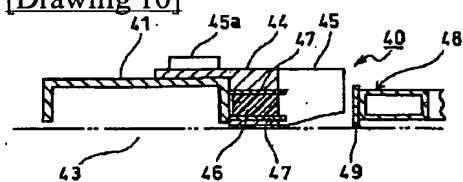
[Drawing 8]



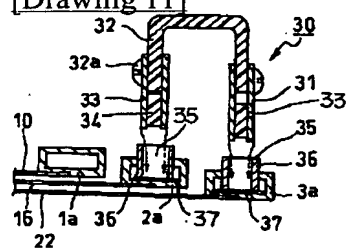
[Drawing 9]



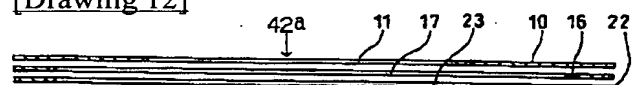
[Drawing 10]



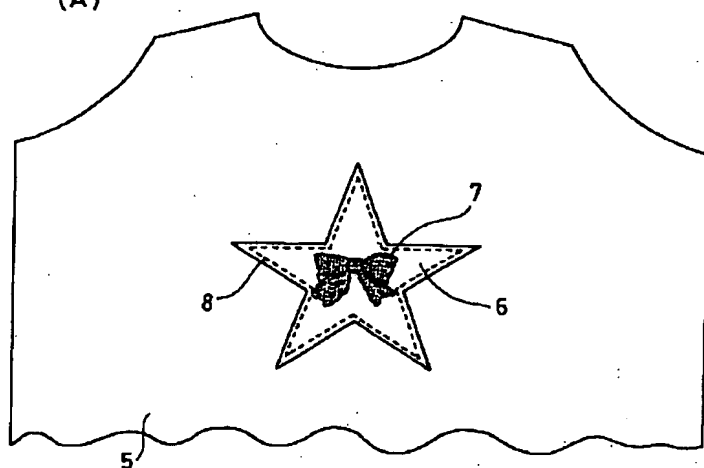
[Drawing 11]



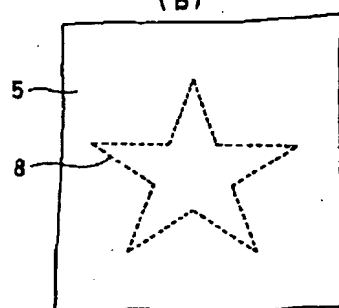
[Drawing 12]



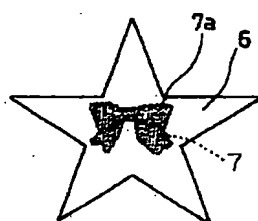
[Drawing 7]  
(A)



(B)



(C)



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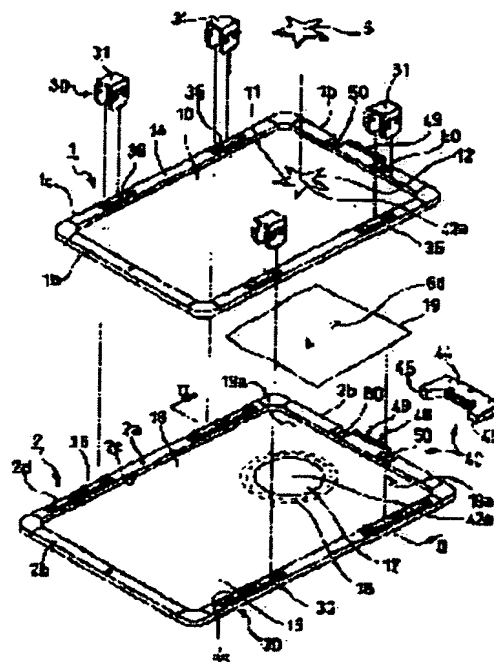
(72)Inventor : NIIMI KUNHIKO

## (54) EMBROIDERY FRAME

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**PROBLEM TO BE SOLVED:** To provide an embroidery frame so designed that an applique is provided with any embroidery pattern using one frame, and a specified position of a cloth 5 is superposed with the applique thus patterned using the above frame and another frame to sew the applique on the cloth so as to ensure the backside threads of the embroidery pattern not to come out on the reverse face of the cloth.

**SOLUTION:** This embroidery frame has, inside the frame member, a medium frame 2 equipped with a cloth-holding means provided with a needle-threading hole 17 and a large frame similarly equipped with a cloth-holding means provided with a needle-threading hole 17 and having a defined inner dimension so as to detachably situate the medium frame 2 inside; wherein there are reference positions 42a which coincide with the needle location of an embroidery sewing machine at both the needle-threading holes, a coordinating means 30 is equipped between the medium frame 2 and the large frame so as to make both the reference positions 42a coincide with each other, and there is also equipped with a coupling means for the driving frame in the embroidery sewing machine so as to drive both the medium and large frames together by the aid of the driving frame.



## LEGAL STATUS

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[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

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[Patent number]

[Date of registration]

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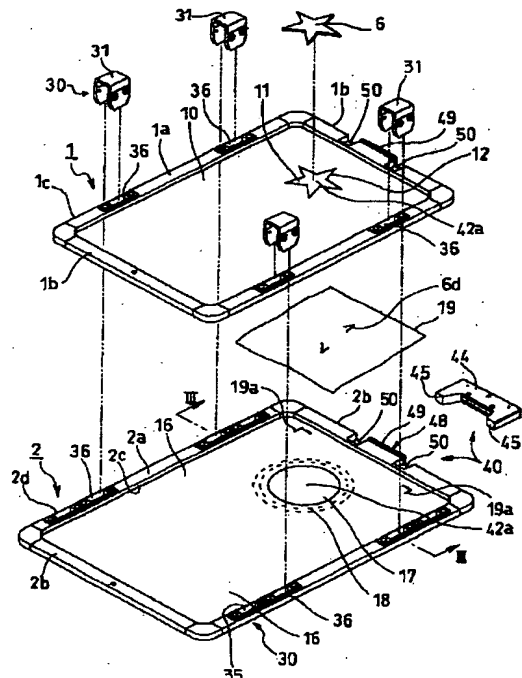
Fターム(参考) 3B150 CB04 CC05 CE02 CE07 CE27  
EB03 EB09 EB13 HA10

(54)【発明の名称】 刺繍枠

(57)【要約】

【課題】 一つの張枠でアップリケ6に任意の刺繍模様7を施し、その張枠と他の張枠とで生地5の所定場所に、刺繍模様7が施されているアップリケ6を重合して、刺繍模様7の裏糸が生地裏にでないように縫付けできるようにする。

【解決手段】 枠部材の内側に、針通し孔が設けられている布保持手段を備える中枠と、中枠を内側に着脱自在に位置できるように内形寸法を定めている大枠であって、枠部材の内側には、針通し透孔が設けられている基布保持手段を備えさせている大枠とを有し、上記針通し孔と、針通し透孔には刺繍ミシンの針落位置と一致する基準位置があり、中枠と大枠との間には、上記両基準位置を一致させるように連繋手段を具備させると共に、刺繍ミシンにおける駆動枠によって大枠と中枠とを一緒に駆動できるように駆動枠に対する結合手段が備えさせてある。



## 【特許請求の範囲】

【請求項 1】 枠部材の内側に、針通し孔が設けられている布保持手段を備える中枠と、中枠を内側に着脱自在に位置できるように内形寸法を定めている大枠であって、枠部材の内側には、針通し透孔が設けられている基布保持手段を備えさせている大枠とを有し、上記針通し孔と、針通し透孔の夫々の内側には刺繍ミシンにおける針落位置と一致させることのできる基準位置を備えており、中枠と大枠との間には、上記大枠の内側に中枠を位置させた状態において、上記針通し孔と針通し透孔との上記基準位置を一致させるように両者間に連繋手段を具備させると共に、これらの内の少なくとも一つの枠には、刺繍ミシンにおける駆動枠によって大枠と中枠とを一緒に駆動できるように駆動枠に対する結合手段が備えさせてあることを特徴とする刺繍枠。

【請求項 2】 枠部材の内側に、針通し孔が設けられている布保持手段を備える中枠と、中枠の内側に着脱自在に位置できるように外形寸法を定めている小枠であって、枠部材の内側には、位置決め孔が設けられている位置決め部材を備えさせている小枠と、中枠を内側に着脱自在に位置できるように内形寸法を定めている大枠であって、枠部材の内側には針通し透孔が設けられている基布保持手段を備えさせている大枠とを有し、上記位置決め孔と、針通し孔と、針通し透孔の夫々の内側には刺繍ミシンにおける針落位置と一致させることのできる基準位置を備えており、中枠と小枠との間には、上記中枠の内側に小枠を位置させた状態において、上記位置決め孔と針通し孔との上記基準位置を一致させるように両者間に連繋手段を具備させると共に、これらの内の少なくとも一つの枠には、刺繍ミシンにおける駆動枠によって中枠と小枠とを一緒に駆動できるように駆動枠に対する結合手段が備えさせてあり、さらに中枠と大枠との間には、上記大枠の内側に中枠を位置させた状態において、上記針通し孔と針通し透孔との上記基準位置を一致させるように両者間に連繋手段を具備させると共に、これらの内の少なくとも一つの枠には、刺繍ミシンにおける駆動枠によって大枠と中枠とを一緒に駆動できるように駆動枠に対する結合手段が備えさせてあることを特徴とする刺繍枠。

## 【発明の詳細な説明】

## 【0001】

【発明の属する技術分野】本発明は刺繍ミシンに用いられる布張枠に関し、詳しくは、生地に対してアップリケ等の飾り物を縫付ける為に用いることのできる刺繍枠に関する。

## 【0002】

【従来の技術】従来より、任意の生地、例えばシャツの前面胸部にアップリケを縫付ける場合、図 2 の外周枠のみから成る一つの張枠 3 の基布保持手段 22 としての透明板における針通し透孔 23 に対して、アップリケ 6 の縫付

け予定位置を合わせた状態で上記のシャツの生地 5 の一部を止着し、そこにアップリケ 6 を重合して、刺繍ミシンを用いて縫着することは行っている。また、上記張枠 3 を、刺繍ミシンにおける前後、左右に移動する張枠駆動部材 41 に結合する手段等は磁石力を用いて着脱自在に結合するものであるが、この点の技術は特開昭 57-167443 号公報等で広く知られている。

【0003】また張枠 3 の生地 5 における所定場所に対してアップリケ 6 を定着させる技術としては、例えば一定の基枠の所定位置に上記の生地 5 が張設してある張枠 3 を定置し、基枠に備えさせる定規枠を張枠 3 上に下降させ、定規枠で指定される位置にアップリケ 6 を置けば、生地 5 に対するアップリケ 6 の位置決めができる。次にそのようにした複数の枠を多頭ミシンにセットして、夫々のアップリケ 6 に刺繍模様 7 を施すことは特公昭 55-9108 号公報で広く知らされている。

## 【0004】

【発明が解決しようとする課題】この従来の刺繍枠では、例えば、図 2 の基布保持手段 22 の上に生地 5 を乗せ、そのアップリケ 6 の縫付予定位置 5a を針通し透孔 23 位置に重合させ、そこにアップリケ 6 を重合させて刺繍模様 7 を施したとする。その刺繍模様 7 の針数が少なく、単にアップリケ 6 を縫付ける程度であれば問題は生じない。しかし、図 6、図 7 C に示すように、刺繍模様 7 が複雑で針数が多いと、生地 5 の裏に刺繍糸の固い塊が露出し、肌に違和感をもたらす問題点が生じる。

【0005】斯かる問題点を解決する為に、別手段で予め刺繍模様 7 が施されているアップリケ 6 を製作し、生地 5 の上に重合して縫付けすることが考えられる。しかしそのアップリケ 6 における形状が天地対称形状であったり、相似形であったりすると、作業員が向きを間違って装着し、不良品を発生させる危険がある。

【0006】またアップリケ 6 の裏に刺繍糸の盛り上がりが多い範囲であると、生地 5 の表面にアップリケ 6 を定着することが困難になり、アップリケ 6 の一部が浮き上がって、アップリケ 6 が横ずれしたり、周囲の縫目が横ずれして不良品を多発させる問題点が生じる。

【0007】本件出願の刺繍枠は、上記従来技術の問題点を解決する為に提供するものである。本件出願の目的は、少なくとも二つの張枠を用いることにより、一つの張枠でアップリケ 6 に任意の刺繍模様 7 を施すことができ、上記の一つの張枠と他の二つ目の張枠とでもって生地 5 における所定場所に、任意の刺繍模様 7 が施されているアップリケ 6 を重合して、正確に、かつ、刺繍模様 7 の裏糸が生地裏にでないように縫付けできるようにした刺繍枠を提供しようとするものである。他の目的及び利点は図面及びそれに関連した以下の説明により容易に明らかになるであろう。

## 【0008】

【課題を解決するための手段】本願発明における刺繍枠

は、枠部材の内側に、針通し孔が設けられている布保持手段を備える中枠と、中枠を内側に着脱自在に位置できるように内形寸法を定めている大枠であって、枠部材の内側には、針通し透孔が設けられている基布保持手段を備えさせている大枠とを有し、上記針通し孔と、針通し透孔の夫々の内側には刺繍ミシンにおける針落位置と一致させることのできる基準位置を備えており、中枠と大枠との間には、上記大枠の内側に中枠を位置させた状態において、上記針通し孔と針通し透孔との上記基準位置を一致させるように両者間に連繋手段を具備させると共に、これらの内の少なくとも一つの枠には、刺繍ミシンにおける駆動枠によって大枠と中枠とを一緒に駆動できるように駆動枠に対する結合手段を備えさせたのである。

#### 【0009】

【発明の実施の形態】以下本願発明の実施の形態を示す図面について説明する。図1乃至図12において、前述の公知技術の説明において用いた符号と同符号を付した構成、部材等の機能、性質、特徴及び公知技術との関連性等は、以降に示す本願の新規な構成を除き、前述した説明と同旨と理解できるので、重複する説明は省略する。次に上記の図1～12図において、1、2、3は刺繍ミシンを用いて刺繍する場合に用いる張枠としての小枠と、中枠と、大枠を示し、夫々縦フレーム1a、2a、3aと、横フレーム1b、2b、3bとで長四角形状に形成し、夫々内側に刺繍の為の空間を備えている。これら三つの張枠は図8、9より明らかなように、同一平面内に外枠3、中枠2、内枠1と三重に配置できるように大枠の内面3d、中枠の内外面2c、2d、小枠の外表面1cの寸法を相互に対応設定してある。5は、基布としてのシャツの任意の部分生地を示し、刺繍模様7を施す対象布であり、例えば5aで示す位置に刺繍模様7を施す。6は飾り模様としての付設物、例えば任意形状のアップリケである。

【0010】10は小枠1の内側に張設した位置決め部材としての透明板（例えば薄いプラスチック板）で、アップリケ6の位置を定める為にアップリケ6の外形状に対応した内形状をした位置決め孔11が設けられている。16は、中枠2の内側に張設した布保持手段としての透明板（例えば薄いプラスチック板）で、アップリケ6の外形よりは大きい針通し用の透孔17が形成してあり、透孔17の周囲には布19を保持する為の布保持部18が備えられる。この布保持部18は一般に、透孔17の周囲に布を反復接着、離反して利用ができる粘着材を塗布して構成する。22は、大枠3の内側に張設した基布保持手段としての透明板（例えば薄いプラスチック板）で、アップリケ6の外形よりは大きく、針通し孔17と略同大の針通し用透孔23が形成してあり、透孔23の周囲には基布5を保持する為の基布保持部24が備えられる。この基布保持部24は前述の場合のように、透孔23の周囲に布を反復接着、離反して利用ができる粘着材を塗布して構成する。

【0011】上記位置決め孔11と、針通し孔17と、針通し透孔23の位置は、刺繍ミシンにおけるテーブルの針落位置42を中心にして定めている。即ち、各張枠を駆動枠41に結合させて縫作動したときに、上記各孔の略中心部が基準位置42aとなって、その周囲に刺繍模様7が縫製できるようにしてある。

【0012】上記構成のものにあつては、中枠2の内側に小枠1を図3に示す如く納め、アップリケ6に刺繍模様7を施す。この作業に当たっては、予め中枠2の針通し孔17の周囲に対してアップリケ保持布19を貼り付ける。このアップリケ保持布19は、アップリケ6が布5に縫付けられた後は、アップリケ6の周辺から千切り除去する為のもので、一般に知られているようにフィルム状のビニールシートであつたり、薬液で溶解する布であつたり、要するに図7に至る工程の間、千切り去られない布状のもの（シート）であればよい。次に図3の状態において任意のアップリケ6を小枠1における位置決め孔11内に嵌め込む。アップリケ6は孔縁12によって保持され横ずれしない。次に連繋手段30を用いて小枠1と中枠2とを一体的に連繋させ、結合手段40を用いて駆動枠41に一体横動可能に結合させる。この状態では位置決め孔11と針通し孔17との針落基準位置42aは一致する。このようにしてアップリケ6の上に任意の刺繍模様7、例えば図7に示す絵を刺繍する。この工程が終わると図2の工程に入る。

【0013】まず大枠3の針通し透孔23の周囲にある基布保持部24に対して生地5を貼り付け、定着させる。この定着作業は予め基布保持手段22に対して付された基布位置決めマーク25に対して生地の一部を対応一致させることにより、生地5におけるアップリケ6縫付予定位置5aを針通し透孔23に合致させ得る。次に前段の作業を終えた状態の中枠2のみを大枠3の内側へ図4に示す如き状態に納める。この状態では、アップリケ6と、アップリケ6に付された刺繍模様7とは、共に針通し孔17の基準位置42aを中心にして位置しているので、大枠3の針通し透孔23における基準位置42aとも重合一致する。また刺繍模様7が付されたアップリケ6の裏には刺繍模様7の裏糸7aが大量に露出し、生地との密着度は悪いが、アップリケ6は布19で引き張られて中枠2との位置関係を保っているため、大枠3と中枠2の位置関係が予定通り定まれば、両者の上下位置関係は予定通りとなる。次に前工程と同じように大枠3と中枠2とを連繋手段30によって連繋させ、大枠3又は中枠2を駆動枠41に対して結合手段40を用いて結合させ、アップリケ6の周囲をアップリケ縫付糸8を用いて生地5に縫付ける。このようにすると、アップリケ6は布19に縫付けられているので、浮き上がることはなく、またアップリケ6の裏に刺繍模様7の裏糸7aが盛り上がっていても、それは生地5と挟まれて隠れ、外観的に美しく、また生地5の裏側に出ることもなく綺麗に仕上がる。以後は大枠3から生地

5を外し、アップリケ6の周囲からアップリケ保持布19の露出部分を除去すると作業は完了する。

【0014】次にアップリケ6をアップリケ保持布19に縫付ける為のスタート位置と、基布5に対して刺繍模様7付きのアップリケ6を縫付ける場合のスタート位置については、特公平6-93942号公報によっても広く知られているように、テーブル43における針落位置(針の下方)に中枠2又は大枠3における基準位置42aが位置するように駆動枠41を手で動かして位置を定め、そのスタート位置を自動刺繍機におけるメモリーに記憶させ、その後は自動刺繍機に予め備えさせたプログラムに従って刺繍させる。なお、スタート位置を固定しておきたいときは、図2に示される結合部材44の基準位置42a方向長さに対して、図1に示される結合部材44の基準位置42a方向長さを略横フレーム3bの幅寸法強長くしておけば良い。

【0015】次に図1において小枠1を省略する場合は、予め中枠2の布保持手段16に定寸法のアップリケ保持布19を定置すべき目印19aを付しておき、そこへアップリケ保持布19を合し、その状態でアップリケ保持布19を布保持部18に貼り付ける。またアップリケ保持布19に対しては、予めアップリケ6を位置させる場所に目印6d又は輪郭を描いておき、そこにアップリケ6を糊で合着させ、その状態で中枠2を結合手段40で駆動枠41に結合して刺繍をする。

【0016】次に二つの枠を一定の間隔で保持し、一体横移動させる為の連繋手段30は、逆U字状に形成された連結部材31と、夫々の枠(1、2、3)の表面において図8に示す如くに形成された連繋孔35とからなる。連結部材31は、磁性材製の逆U字状の摘み部材32と、これの下端にビス32aにて伸縮調節自在に連結された磁性板33、33と、磁性板33に挟持されているフェライト磁石34とから構成されている。連繋孔35はアルミ製の枠材(1a、2a、3a)にあげられた穴に対して埋め込み状固着した非磁性の筒状ホルダ36と、筒状ホルダ36内に対して抜き差し自在に挿入される磁性板33、33の先端を接離自在に接合させる為の鉄板37とから成る。

【0017】次に上記連繋手段30としては、三つの枠(1、2、3)相互間には枠内からの布のはみ出しを配慮して布厚相当の間隔56が図8の如く形成してある。従って、これらの間隙複数個所に対応寸法の楔片を散設状挿入すると、内外の枠は夫々一体化する。

【0018】次に鉄材製の駆動枠41と、張枠(1、2、3)とを着脱自在にする為の結合手段40は、凸状の結合爪45を備える結合部材44と、結合爪45を嵌合させる為の結合凹部50と枠端固着の磁性板49を備える結合端部48とから成る。結合部材44は非磁性のプラスチック製で、止めねじ45aで駆動枠41に固着されている。またこれにはフェライト磁石46と、その両側に位置させる磁性板47、47が付設してあり、駆動枠41と、張枠(1、2、

3)における夫々の結合端部48とは、上記結合爪45と結合凹部50及び鉄板49と磁石46との着脱自在の構成により、三つの張枠は駆動枠41に対して交換自在に装着できる。

#### 【0019】

【発明の効果】以上のように本願発明は、中枠2と大枠3には、夫々針通し孔17と針通し透孔23とを備えさせ、夫々における基準位置42aを目安にして、中枠2においてはアップリケ保持布19を、また大枠3においては基布5を装着できるようにしてあり、しかも中枠2を駆動枠41に結合させて上記アップリケ保持布19に置かれるアップリケ6に刺繍模様7を施すことができ、さらに、その中枠2は大枠3に対して連繋手段30でもって連繋させると、上記両枠2、3の基準位置42aが対応合致する構成であるから、両者連繋状態で刺繍模様7が付されたアップリケ6を基布5に縫付けると、アップリケ6の裏に露出する多量の裏糸7aを基布5の表面で覆うことのできる効果が生じる。また従来のように、基布5に対して刺繍模様7が付されたアップリケ6を手作業で重合させ、アップリケ6の向き、位置に誤りを発生させることを予め防止でき、基布5の予定位置にアップリケ6を正確な向きで、横ずれなく周囲の縫付け作業を可能ならしめる効果がある。

#### 【図面の簡単な説明】

【図1】小枠と中枠及び連繋手段、結合手段などの位置関係を示す斜視図。

【図2】中枠と大枠及び連繋手段、結合手段などの位置関係を示す斜視図。

【図3】図1における小枠と中枠を合体させた状態におけるI I I-I I I I線断面図。

【図4】図2における中枠と大枠を合体させた状態におけるI V-I V線断面図。

【図5】図3のV位置拡大図。

【図6】図4のV I位置拡大図。

【図7】A図は生地に対して刺繍模様の付いたアップリケを付着した状態を示す正面図、B図は裏面図、C図は刺繍模様が付されたアップリケの裏面図。

【図8】小枠、中枠、大枠を平面的に合体させた状態の平面図。

【図9】図8のI X-I X線断面図。

【図10】駆動枠と張枠との結合手段を示す一部破断図。

【図11】張枠相互の連繋手段を示す破断図。

【図12】図9のX I I位置拡大図。

#### 【符号の説明】

- 1 刺繍枠の小枠
- 2 刺繍枠の中枠
- 3 刺繍枠の大枠
- 5 基布(生地)
- 6 アップリケ(付設片)
- 7 刺繍模様

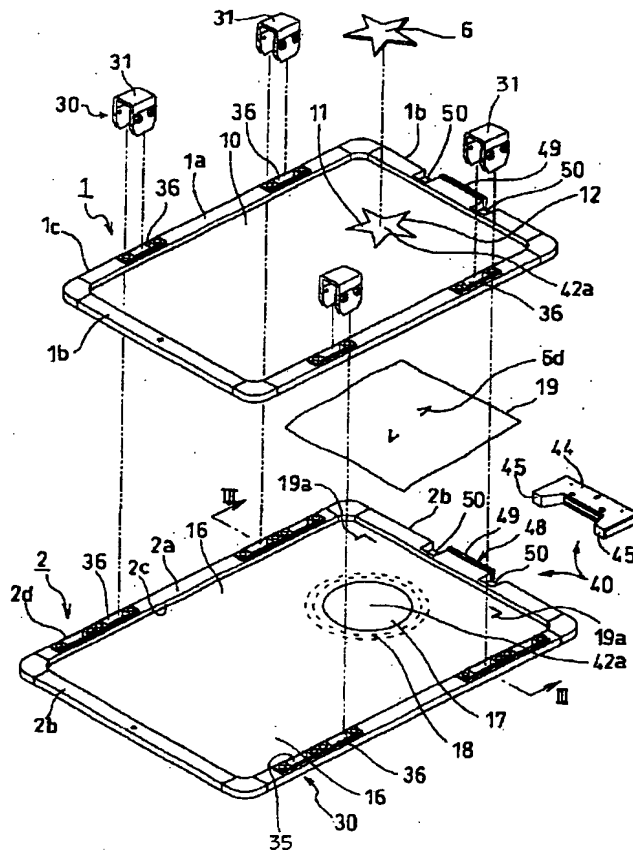


- 7a 生地裏側の刺繍糸  
 8 アップリケ縫付糸  
 10 位置決め部材  
 11 位置決め孔  
 12 孔縁  
 16 布保持手段  
 17 針通し孔  
 18 布保持部  
 19 アップリケ保持布  
 22 基布保持手段  
 23 針通し透孔  
 24 基布保持部  
 25 基布位置決めマーク  
 30 連繫手段  
 31 連結部材  
 32 摘み部材  
 33 磁性板

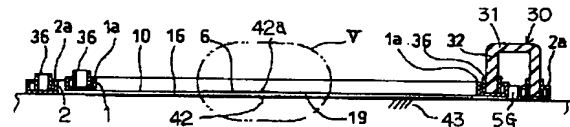
- \* 34 磁石  
 35 連繫孔  
 36 磁性板  
 37 鉄板  
 40 結合手段  
 41 駆動棒  
 42 針落位置  
 42a 基準位置  
 43 テーブル  
 44 結合部材  
 45 結合爪  
 46 磁石  
 47 鉄板  
 48 結合部材  
 49 鉄板  
 50 結合凹部

\*

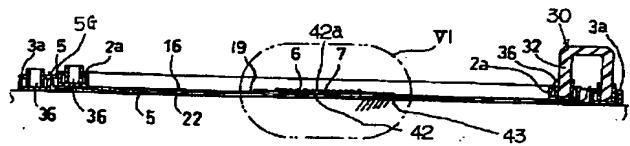
【図 1】



【図 3】



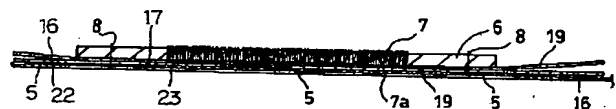
【図 4】



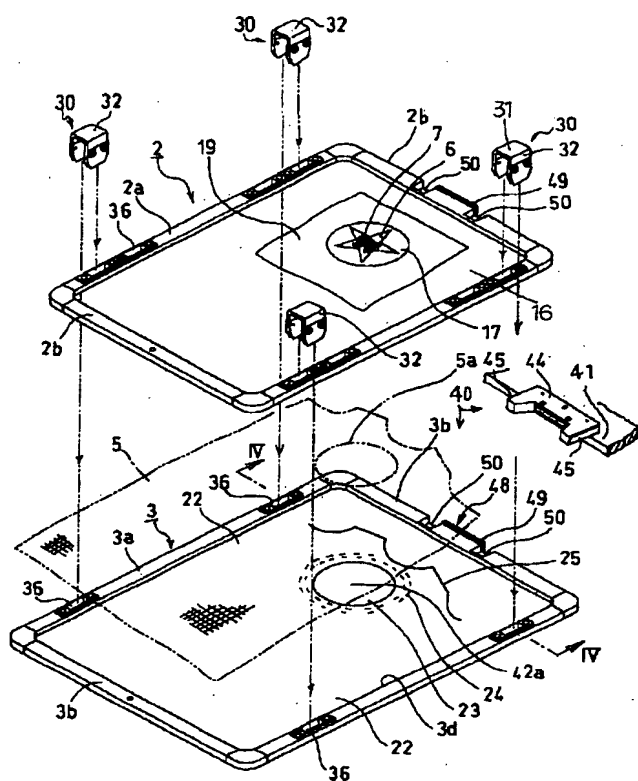
【図 5】



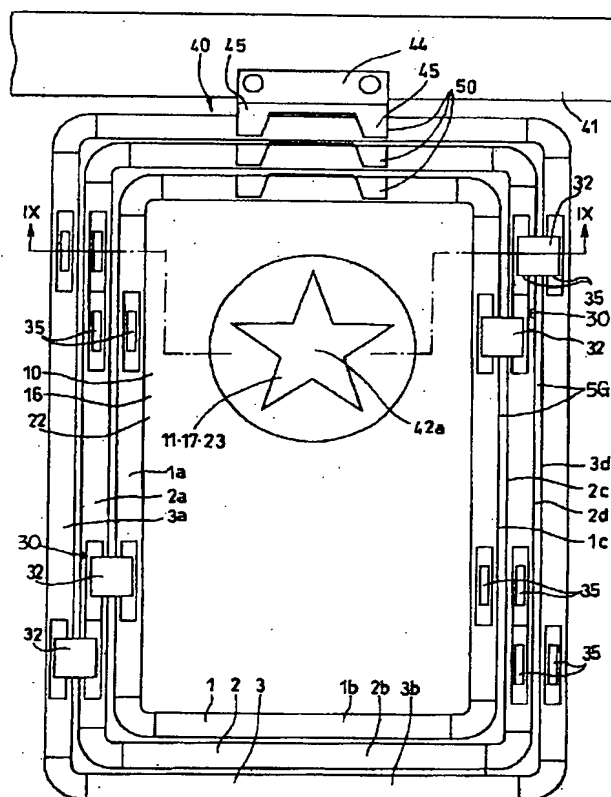
【図 6】



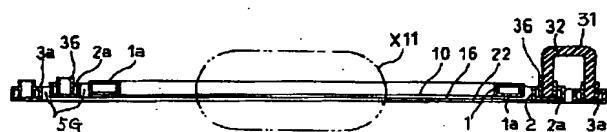
【図 2】



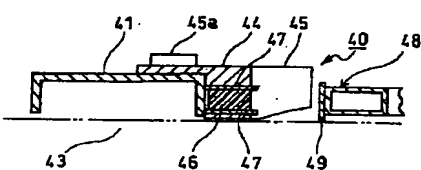
【図 8】



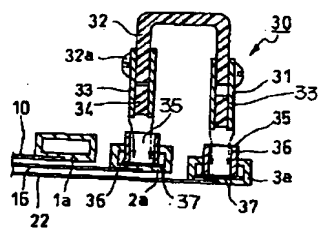
【図 9】



【図 10】



【図 11】



【図 12】



【図 7】

